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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/802,920

03/18/2004

Kye-jin Jeon

249/452

5432

27849

7590

06/21/2006

LEE & MORSE, P.C.

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ARLINGTON, VA 22209

EXAMINER

BERHANU, ETSUB D

ART UNIT

PAPER NUMBER

3768

DATE MAILED: 06/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/802,920

Applicant(s)

JEON ET AL.

Examiner

Etsub D. Berhanu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/18/04 9/22/04
3/23/06
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1-10 and 12-21 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 1-10 and 12-21 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

3. Claim 1 is directed to a method of noninvasively measuring a concentration of a blood component, but does not result in a physical transformation nor does it appear to provide a useful, concrete and tangible result. Specifically, it does not appear to produce a tangible result because estimating a concentration of a blood component is nothing more than a computation within a processor. It fails to use or make available for use the result of the blood component concentration determination to enable its functionality and usefulness to be realized. According to the specification, the practical application for performing the steps disclosed in claim 1 is to display an estimated blood component concentration. The practical application is not explicitly recited in the claims. Therefore, claim 1 appears non-statutory. It is noted that the results of claims 2-10 also fail to provide a useful, concrete and tangible result. It is suggested that the applicant add -- ; and displaying the estimated blood component concentration -- as step (c) at the end of claim 1 in order to make claim 1 statutory.

4. Claim 12 includes a body-machine interface unit mounted on a body part as part of the claimed subject matter. It is suggested that line 6 of claim 12 be amended to include the phrase “adapted to be” or “configured to be” to eliminate human tissue as part of the invention.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 11-14 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Harjunmaa et al.'042 (US Patent No. 5,183,042).

Harjunmaa et al.'042 discloses a method of non-invasively measuring a concentration of a body component, the method comprising: varying a thickness of a body part of a subject, measuring absorption spectrums at different thicknesses of the body part, obtaining a first differential absorption spectrum between the absorption spectrums measured at different thicknesses, actually measuring concentrations of the blood component, establishing a statistical model using the first differential absorption spectrum and the actually measured concentrations, and estimating the concentration of the body component using a second difference absorption spectrum measured from the body part using the statistical model (col. 4, lines 22-36 and lines 52-63 and col. 5, lines 6-15 and col. 6, lines 26-34).

Figure 1 of Harjunmaa et al.'042 discloses a non-invasive body component measuring apparatus comprising: a light source unit 10, 12-16, 24, and 25; a spectroscopy 17; a body-machine interface unit 30, wherein the body-machine interface unit comprises a beam guide portion 37, a light receiver 39, a holder 32 attached to the light receiver, and securing/compressing members 31 and 32; a detection unit 19 and 21; and a signal processing unit 22. The signal processor generates a signal for the body-machine interface unit to apply pressure to change the thickness of the body part (col. 4, lines 52-55), and estimates the concentration of a blood component from a second differential absorption spectrum obtained at the body part based on a statistical model of the blood component (col. 5, lines 6-15 and col. 6, lines 26-34).

Harjunmaa et al.'042 further discloses using two wavelength pairs in a sequential mode, thus creating four absorption spectrums and two first differential absorption spectrums measured from the body part at the first and second thicknesses (one between the first and second absorption spectrums, and one between the third and fourth absorption spectrums), wherein a blood component concentration measurement is made according to the method described above (col. 6, lines 35-42). It is noted that multivariate statistical analysis is performed on the two first differential absorption spectrums in order to determine a blood component concentration measurement.

Regarding claim 11, it is noted that the signal processor is capable of executing the method as disclosed in claim 1.

Allowable Subject Matter

7. The following is a statement of reasons for the indication of allowable subject matter: None of the prior art teaches or suggests, either alone or in combination, a method of noninvasively measuring a concentration of a blood component or an apparatus for noninvasively measuring a concentration of a blood component wherein either the method or apparatus comprises: determining an initial thickness of the body part of the subject, increasing the thickness of the body part from the initial thickness to a first thickness and measuring a first absorption spectrum with respect to the body part, and increasing the thickness of the body part from the first thickness to a second thickness and measuring a second absorption spectrum with respect to the body part; determining an initial thickness of the body part of the subject, increasing the thickness of the body part from the initial thickness to a first thickness and holding the state in standby for a predetermined period of time; a variation between the initial thickness and the first thickness being less than about 0.2 mm or ranging from about 0.1 to 0.3 mm; or a signal processor that generates signals for increasingly varying the thickness of the body part from an initial thickness to a

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first thickness in correspondence with the actually measured concentration, in combination with the other claimed steps or elements.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Etsub D. Berhanu whose telephone number is 571.272.6563. The examiner can normally be reached on Monday - Friday (Every other Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on (571)272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ERIC F. WINAKUR
PRIMARY EXAMINER

EDB